

## ABSTRACT

A process for treating on floating units fluid from submarine oil fields. The fluid is delivered to a high pressure separation stage in which the fluid is split into a light hydrocarbon gas phase, a water phase, and a hydrocarbon liquid phase. The light hydrocarbon gases are delivered to a gas reinjection compression unit, having at least two compression stages. The hydrocarbon liquid is delivered to one or more-further separation stages, operating at decreasing pressures, where the liquid is split into a light hydrocarbon gas phase, a water phase, and a liquid hydrocarbon phase. The light hydrocarbon gases are delivered to compression units including ejectors that use the compressed gas from the gas reinjection compression unit as driving fluid.